Amendments to the Drawings:

The attached sheet of drawings includes changes to Figure 2. This sheet replaces the original sheet.

Attachment

Remarks/Arguments:

Claims 1-33 are pending in the above-identified patent application. Claims 1, 8, 14, 22 and 27 are amended. Basis for these amendments may be found in the specification at paragraphs [0046] and [0063].

The specification is amended at paragraphs [0046] and [0063] to add the reference number 227 identifying the register which is added to the drawing figures.

Drawing Fig. 2 is amended to add show the register 227 in the RF Processing Circuitry

Claims 1-3 and 5-12 were rejected under 35 U.S.C. § 102(e) as being anticipated by Lindlar et al. (U.S. 7,149,473, hereinafter Lindlar). Applicants respectfully request reconsideration of this rejection. In particular, Lindlar does not disclose or suggest, "a bi-directional message interface for communicating a power control message from the baseband section to the RF section," as required by claim 1 or "communicating the power control message over a message interface from the baseband section to the RF section where the power control message is associated with power consumption of the RF section." As required by claim 8.

Lindlar concerns an interface between baseband circuitry and RF circuitry in a Bluetooth device. The Lindlar system does not send "a power control message ... associated with power consumption of the RF section," but instead uses hard-wired power control signals. In the Office Action, two power control elements are identified 1) the signal SleepX which removes power from the entire RF section and 2) the signal PAON which controls power to the power amplifier 276. Neither of these signals is a part of a "message" as the term would be understood by a skilled person upon reading the subject patent application.

The signal SleepX in Lindlar is identified as a signal at column 2, lines 51-53. As shown in Figs. 1a and 1b of Lindlar, the SleepX signal is generated in the baseband circuitry 100 and is logically combined with signals internal to the RF circuitry 200 before being applied to the power supply regulator 240 and reference oscillator 250 in the RF circuitry 200. As shown in Fig. 1c, the signal PAON is provided via RF Bus2 in transmit mode and applied directly to the power amplifier 276. At column 7, lines 1-7, Lindlar identifies PAON as a signal and states that "[t]he switching on and off of the Power Amplifier is 'time critical' as it must be controlled over

time scales of less than 1 bit duration." Thus, the PAON signal could not be a part of a power control message sent from the baseband section to the RF section.

Claim 1 further recites, that the "the RF section includes a register for receiving the power control message from the baseband section and wherein devices to be controlled by the power control message are coupled to the register to receive respective power control data from the received power control message." Similarly, claim 8 recites, "storing the power control message in a register internal to the RF section wherein devices to be controlled by the power control message are coupled to the register to receive respective power control data from the stored power control message." Lindlar does not disclose or suggest such a register which stores the message. This register which stores the message provided by the baseband section according to the subject application, illustrates the difference between a message according to claims 1 and 8 of the subject invention, and the signals used in Lindlar.

Using a message to transfer power control messages rather than dedicated signals has the advantage of reducing the number of signal lines between the baseband and RF sections. In Lindlar, separate signal lines are required for the SleepX and PAON signals. Control of more than one device in the RF section, according to Lindlar, would require a separate signal line for each device. According to the subject invention, however, power control messages are sent between the baseband and RF sections via a single message interface and are received by a register. The devices to be controlled by the power control message are coupled to the register to receive respective power control data from the received power control message.

Because Lindlar does not disclose or suggest these features of claims 1 and 8, these claims are not subject to rejection under 35 U.S.C. § 102(e) in view of Lindlar. Claims 2, 3, and 5-7 depend from claim 1 and claims 9-12 depend from claim 8. Accordingly, these claims are not subject to rejection under 35 U.S.C. § 102(e) in view of Lindlar for at least the same reasons as their base claims.

Claims 4 and 13 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Lindlar and Molnar et al (US 2002/0142741, hereinafter Molnar). Lindlar is described above. Molnar does not provide the material that is missing from Lindlar, as described above. Molnar concerns a low-voltage digital interface. In the Office Action, it is asserted that Molnar discloses a serial message interface for communicating a power control message from the

baseband section to the RF section that is associated with power consumption of the RF section. Applicant respectfully disagrees with this assertion. Molnar does not disclose or suggest sending any power control messages via the serial interface. In support of this assertion, the Examiner points to paragraph [0047] of Molnar. While this paragraph does describe a serial interface 332 via which control signals may be conveyed from the baseband module to the RF module, it does not disclose or suggest that any of these control signals may be a power control signal.

Indeed, Molnar teaches that power control of the RF module and the other modules in the system is accomplished by the power module 206. For example, paragraph [0040] states:

> The module 206 is coupled to a power supply 210. The power supply 210 may be a battery or other power source and may be implemented as a power management integrated circuit (PMIC) on a single die. The power module 206 controls the power supply for all of the other components of the mobile communications device 22.

Contrary to the assertion by the Examiner, this passage indicates that power control in the mobile communications device is accomplished using a power management integrated circuit. From this passage, the skilled person would understand that the power control module 206 autonomously controls power to the RF module. Thus, the skilled person would not understand Molnar as sending power control messages from the baseband module to the power control module. In the Office Action, the Examiner asserts that the control messages include power control bits. To support this assertion, the Examiner points to the Abstract and paragraphs [0010], [0047] and [0057] to [0060] of Molnar. None of these paragraphs, however, indicates that the messages include power control bits.

Although Molnar does not explicitly describe the control messages that are sent, at paragraphs [0023] through [0025], Molnar describes several different GSM systems and describes how a particular receiver is assigned a frequency to be used in the GSM standard. From this description, the skilled person would understand that the control signals provided via the serial interface are to configure the RF module to a particular GSM standard and/or to configure the RF module to use a particular frequency band once that band has been assigned.

As set forth above, nothing in Molnar indicates that any of the control messages sent by the serial interface is a power control message. While Molnar describes providing a "standby voltage" from the baseband module to the RF module, this is not a message but an operational

power supply line. This voltage is provided for the sole purpose of retaining control signals that are stored by the RF module in the data latches 334, when the RF module is powered down. (See paragraph [0059] of Molnar, "[t]he one supply voltage maintained during shutdown, the baseband standby voltage at voltage level V_{BO}, maintains a voltage only for memory retention purposes").

In paragraphs [0057] - [0060], Molnar describes a low-Voltage Digital Interface in which the RF integrated circuit 338 operates in a different voltage range than the Baseband circuitry 202. This passage describes level shifting circuitry which translates the control signals provided by the Baseband circuitry 202 into voltage levels that are compatible with the RF circuitry 338. This passage does not disclose that any of these signals is used for power control. Instead, it discloses that, during shutdown, the only voltage that is applied to the RF circuitry is the baseband standby voltage, and that voltage is applied only to retain the data stored in the latches 334. (See paragraph [0059]). This passage is consistent with the PMIC controlling power to the RFIC 338.

Furthermore, it would not be obvious to use the latches disclosed in Molnar to hold the power signals of Lindlar because of the timing constraints noted in Lindlar: "[t]he switching on and off of the Power Amplifier is 'time critical' as it must be controlled over time scales of less than 1 bit duration." (See col. 7, lines 1-7).

Because Molnar does not provide the material that is missing from Lindlar and because the combination of Lindlar and Molnar is improper, claims 1 and 8 as well as claims 4 and 13 which depend from them are not subject to rejection under 35 U.S.C. § 103(a) in view of Lindlar and Molnar.

Claims 14-17, 19-20, 22-25, 27-31 and 33 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Lindlar and Syrjarinne (US 2003/0107514, hereinafter Syrjarinne). Because claims 14, 22 and 28 include limitations similar to the limitations described above with reference to the rejection of claim 1, and because Syrjarinne does not provide the material that is missing from Lindlar, claims 14, 22 and 28 as well as all of the claims that depend from these claims are not subject to rejection under 35 U.S.C. § 103(a) in view of Lindlar and Syrjarinne.

Lindlar is described above. Syrjarinne was cited as disclosing a GPS receiver. In addition, in the Office Action, it is asserted that Syrjarinne discloses a low power standby mode

for the GPS receiver for power saving. The power control in Syrjarinne, however, is implemented using a power control module that monitors the mode mix provided by the mode selector to define appropriate on-off duty cycles for the RF front end and baseband processor. The power control is implemented entirely in the power control module (See paragraphs [0030] and [0039]). Thus, Syrjarinne can not disclose or suggest:

> a bi-directional message interface for communicating messages between the RF processing section and a baseband processing section, including receiving a power control message from the baseband processing section wherein the power control message is associated with power consumption of the RF processing section, wherein the RF section includes a register for receiving the power control message from the baseband section and wherein devices to be controlled by the power control message are coupled to the register to receive respective power control data from the received power control message,

as required by claim 14. Claims 22 and 28 include similar limitations.

Because neither Lindlar nor Syrjarinne disclose or suggest these limitations of claims 14, 22 and 28 and because claims 14-17, 19-20 and 21 depend from claim 14; claims 23-25 and 27 depend from claim 22 and claims 29-31 and 33 depend from claim 28, these claims are not subject to rejection under 35 U.S.C. § 103(a) in view of Lindlar and Syrjarinne.

Claims 18, 26 and 32 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Lindlar, Syrjarinne and Molnar. As set forth above, none of these references either alone or in combination discloses or suggests the features of claims 14, 22 and 28 described above. Accordingly, claim 18, which depends from claim 14; claim 26, which depends from claim 22 and claim 32, which depends from claim 28, are not subject to rejection under 35 U.S.C. § 103(a) in view of Lindlar, Syrjarinne and Molnar.

Claims 4 and 13 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Molnar and Lindlar. As set forth above, neither Molnar, Lindlar nor their combination discloses or suggests, "a bi-directional message interface for communicating a power control message from the baseband section to the RF section," as required by claim 1 or "communicating the power control message over a message interface from the baseband section to the RF section where the power control message is associated with power consumption of the RF section," as required by claim 8. Furthermore, neither Molnar, Lindlar nor their combination disclose or suggest, that the "the RF section includes a register for receiving the power control message from the baseband section and wherein devices to be controlled by the power control message

are coupled to the register to receive respective power control data from the received power control message," as required by claim 1 or "storing the power control message in a register internal to the RF section wherein devices to be controlled by the power control message are coupled to the register to receive respective power control data from the stored power control message," as required by claim 8. Consequently, claims 1 and 8 as well as claims 4 and 13 which depend from claims 1 and 8, are not subject to rejection under 35 U.S.C. § 103(a) in view of Molnar and Lindlar.

Claims 18, 26 and 32 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Molnar, Lindlar and Syrjarinne. As set forth above, none of these references either alone or in combination discloses or suggests,

> communicating the power control message over a message interface from the baseband section to the RF section where the power control message is associated with power consumption of the RF section; and
>
> storing the power control message in a register internal to the RF section wherein devices to be controlled by the power control message are coupled to the register to receive respective power control data from the stored power control message

as set forth in claim 8 or,

> a bi-directional message interface for communicating messages between an RF processing section and the baseband processing section, including communicating a power control message to the RF processing section where the power control message is associated with power consumption of the RF processing section, wherein the RF processing section includes a register for receiving the power control message from the baseband section and wherein devices to be controlled by the power control message are coupled to the register to receive power control data

as set forth in claim 22 or the similar limitation in claim 28. Accordingly, claims 8, 22 and 28 as well as claims 18, 26 and 32, which depend from claims 8, 22 and 28, are not subject to rejection under 35 U.S.C. § 103(a) as being obvious in view of Molnar, Lindlar and Syrjarinne.

Applicant appreciates the indication in the Office Action that claim 21 is objected to as being dependent on a rejected base claim but would be allowable if rewritten to be independent in form and to include the limitations of claims 14, 15 and 20 from which it depends. As set forth above, claims 14, 15 and 20 are not subject to rejection in view of any of the cited references. Accordingly, there is no need to amend claim 21.

Claims 1-33 were provisionally rejected for nonstatutory obviousness-type double patenting in view of claims 1-60 of copending application no 10/369853 and Lindlar. In the Office Action, it is admitted that claims 1-60 of 10/369853 do not include a power control message that is associated with power consumption of the RF section and cites Lindlar as disclosing this feature. As set forth above, however, this feature is not disclosed or suggested by Lindlar. Consequently, claims 1-33 are not subject to rejection for nonstatutory obviousness-type double patenting in view of claims 1-60 of copending application no 10/369853 and Lindlar.

Claim 21 was rejected for nonstatutory obviousness-type double patenting in view of U.S. patent no. 7,634,025 and Lindlar. In the Office Action, it is admitted that claims 1-3 of 7,634,025 do not include a power control message that is associated with power consumption of the RF section and cites Lindlar as disclosing this feature. As set forth above, however, this feature is not disclosed or suggested by Lindlar. Consequently, claim 21 is not subject to rejection for nonstatutory obviousness-type double patenting in view of claims 1-3 of 7,634,025 and Lindlar.

In the Office Action, the Examiner provides unsupported assertions as to the operation of the Power Management IC. If the Examiner intends to rely on any of these assertions in a future rejection, Applicant respectfully requests the examiner to provide substantial evidence on the record or an appropriate declaration or affidavit to support the assertions.

The examiner also notes that "any control signal relating to 'power usage' of RF section would read on 'power control message' as claimed." Applicant notes that pursuant to MPEP section 2181, "claim language must be analyzed not in a vacuum but in light of: (A) the content of the particular application disclosure; (B) the teachings of the prior art; and (C) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made." As set forth above, the claims explicitly recite "a power control **message**," also as set forth above, there are significant differences between messages and signals. In view of the teachings of the specification and the words used in the claim, the Examiner is not entitled to ignore the word "message" when interpreting the claim. Thus, as described above, a message is not equivalent to a signal

In view of the foregoing amendments and remarks Applicant requests that the Examiner reconsider and withdraw the rejection of claims 1-33.

Respectfully submitted,

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Attachments: Figure 2 (1 sheets)

Dated: May 20, 2010

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